

Substitute for form 1449A/PTO

## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet 1 of 2

*Complete if Known*

Application Number	09/432,503
Filing Date	November 2, 1999
First Named Inventor	Cech, Thomas R.
Art Unit	1635
Examiner Name	Jon E. Angell

Attorney Docket Number 015389-002611US

U.S. PATENT DOCUMENTS+						
Examiner Initials*	Cite No. <sup>1</sup>	Document Number Number Kind Code <sup>2</sup> (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	
	A1					
	A2					

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document Country Code <sup>3</sup> Number <sup>4</sup> Kind Code <sup>5</sup> (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
	B1					<input type="checkbox"/>
	B2					<input type="checkbox"/>

\* No citations/refs on this page

Examiner Signature	Date Considered	3-4-05
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INSTITUTE FOR FORM 1449B/PTO <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> <i>(use as many sheets as necessary)</i>				<b>Complete If Known</b>	
Sheet	2	of	2	Application Number	09/432,503
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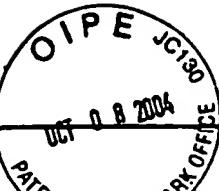
NON PATENT LITERATURE DOCUMENTS			
Examiner Initials *	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
	C1	CAMPBELL, KEITH & WILMUT, IAN "Totipotency or Multipotentiality of Cultured Cells: Applications and Progress" Theriogenology, January 1997, pp. 63-72, Vol. 47, Issue 1, Elsevier Science Inc.	
	C2	GEARHART, JOHN "New Potential for Human Embryonic Stem Cells" Science, November 6, 1998; pp. 1061-1062, Vol. 282, Issue 5391.	
	C3	THOMSON, JAMES A. et al. "Embryonic Stem Cell Lines Derived from Human Blastocysts" Science, November 6, 1998; pp. 1145-1147, Vol. 282, Issue 5391.	
	C4		

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		Number	Kind Code <sup>2</sup> (if known)			

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<b>NON PATENT LITERATURE DOCUMENTS</b>			
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**INFORMATION DISCLOSURE STATEMENT BY APPLICANT**

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Sheet 1 of 16

Complete If Known	
Application Number	09/432,503
Filing Date	November 2, 1999
First Named Inventor	Cech, Thomas R., et. al.
Art Unit	1652
Examiner Name	Peter P. Tung
Attorney Docket Number	015389-002611US

**U.S. PATENT DOCUMENTS**

Examiner	Cite No. <sup>1</sup>	Document Number Number Kind Code <sup>2</sup> (If known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
AA	08/751,189		11-15-1998	Harrington, et al.	
AB	60/038,750		02-20-1997	Counter, et al.	
AC	3,817,837		05-18-1974	Tanenholz, et al.	
AD	3,860,752		11-28-1974	Schaura, et al.	
AE	3,839,350		02-17-1976	Kronick, et al.	
AF	3,896,345		12-01-1976	Ullman, et al.	
AG	4,275,149		06-23-1981	Ullman, et al.	
AH	4,277,437		07-07-1981	Maggio	
AI	4,368,241		12-28-1982	Tom, et al.	
AJ	4,683,195		07-26-1987	Mullis, et al.	
AK	4,683,202		07-26-1987	Mullis	
AL	4,816,567		03-28-1990	Cabiby, et al.	
AM	4,965,188		10-23-1990	Mullis, et al.	
AN	5,489,508		02-06-1998	West, et al.	
AO	5,583,016		12-10-1996	Villepontreau, et al.	
AP	6,747,917		05-05-1998	Cao	
AO	6,770,422		06-23-1998	Collins	
AR	6,093,809		07-25-2000	Cech, et al.	
AS	6,258,538 - B1		07-10-2001	Villepontreau, et al.	
AT	6,261,556 - B1		07-17-2001	Welnrich, et al.	
AU	6,261,838 - B1		07-17-2001	Cech, et al.	
AV	6,093,809		07-25-2000	Cech, et al.	
AW	6,168,178		12-26-2000	Cech, et al.	
AX	6,476,789 B1		11-03-2002	Cech, et al.	

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		Country Code <sup>3</sup>	Number <sup>4</sup> Kind Code <sup>5</sup> (If known)				
AY		JP	08154575-A			08-17-97	
AZ		PCT	WO 84/03564			09-13-94	
BA		PCT	WO 95/13382			05-18-95	
BB		PCT	WO 96/01835			01-25-96	
BC		PCT	WO 96/12811			05-02-96	
BD		PCT	WO 98/18580			06-27-98	
BE		PCT	WO 98/40868			12-19-98	
BF		PCT	WO 98/01542			01-15-98	

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**INFORMATION DISCLOSURE  
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Sheet 2 of 12 10

**Complete If Known**

Application Number	09/432,503
Filing Date	November 2, 1999
First Named Inventor	Cech, Thomas R., et. al.
Art Unit	1652
Examiner Name	Peter P. Tung
Attorney Docket Number	015389-002611US

**U.S. PATENT DOCUMENTS**

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BG	PCT	WO 98/01543		01-15-98	
BH	PCT	WO 98/07838		03-05-98	
BI	PCT	WO 98/08938		02-26-98	
BJ	PCT	WO 98/21343		05-22-98	
BK	PCT	WO 98/37181		08-27-98	
BL	PCT	WO 98/45450		10-15-98	
BM	PCT	WO 98/59040		12/30/98	
BN	PCT	WO 99/01560		01/14/99	

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<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> <i>(use as many sheets as necessary)</i>		Application Number	09/432,503
Sheet	3	of	12 of 10
		First Named Inventor	Cech, Thomas R., et al.
		Art Unit	1652
		Examiner Name	Peter P. Tung
		Attorney Docket Number	015389-002611US

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS				
Examiner Initials *	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.		T <sup>2</sup>
	BO	1994 Genome Issue of Science (265:1981)		
	BP	Anderson and Young, "Quantitative Filter Hybridization" in <i>Nucleic Acid Hybridization</i> pp73-111 (1985)		
	BO	Ausubel et al.; (1989); Current Protocols in Molecular Biology, pp 5.1-5.11, 18.1-18.3 and 18.9-18.20; John Wiley & Sons, New York NY		
	BR	Autexier et al., "Reconstitution of human telomerase activity and identification of a minimal functional region of the human telomerase RNA." (1996) <i>EMBO J.</i> 15:5928		
	BS	Autexier and Greider, "Functional reconstitution of wild-type and mutant <i>Tetrahymena</i> telomerase," (1994) <i>Genes Develop.</i> , 8:563		
	BT	Berger and Kimmel, <i>Guide to Molecular Cloning Techniques</i> ; (1987); Meth. Enzymol.; vol. 152; pp 305-389; Academic Press; San Diego CA		
	BU	Blessman et al., "Addition of Telomere-Associated HeT DNA Sequences 'Heats' Broken Chromosome Ends in <i>Drosophila</i> ," (1990) <i>Cell</i> , 61:663		
	BV	Bitter et al., "Expression and secretion vectors for yeast," Meth Enzymol., (1987) 153:518		
	BW	Blackburn and Chiou, "Non-nucleosomal packaging of a tandemly repeated DNA sequence at termini of extrachromosomal DNA coding for rRNA in <i>Tetrahymena</i> ," (1981) <i>Proc. Natl. Acad. Sci.</i> , 78:2263		
	BX	Blackburn and Gall, "A tandemly repeated sequence at the termini of the extrachromosomal ribosomal RNA genes in <i>Tetrahymena</i> ," (1978) <i>J. Mol. Biol.</i> , 120:33		
	BY	Blackburn, "Telomerase," (1992) <i>Ann. Rev. Biochem.</i> , 61:113		
		Bodnar et al., "Extension of Life-Span by Introduction of Telomerase into Normal Human Cells," (1998) <i>Science</i> , 279:349		
		Bradford, "A Rapid and Sensitive method for the Quantitation of Microgram Quantities of Protein Utilizing the Principle of Protein-Dye Binding," (1976) <i>Anal. Biochem.</i> , 72:248		
		Braunstein et al., "Transcriptional silencing in yeast is associated with reduced nucleosome acetylation," (1998) <i>Genes Develop.</i> , 7:592		

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Sheet

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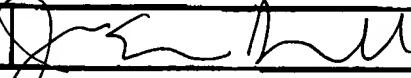
of

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		Calvlo et al., "Identification of hnRNP P2 as TLS/FUS using electrospray mass spectrometry," (1995) RNA, 1:724
		Caruthers et al., "New chemical methods for synthesizing polynucleotides," (1980) Nucleic Acids Res. Symp. Ser., 215:223
		Chan and Tye, "Organization of DNA sequences and replication origins at yeast telomeres," (1983) Cell, 33:563
		Colbert-Garapin et al., "A new dominant hybrid selective marker for higher eukaryotic cells," (1981) J. Mol. Biol., 150:1
		Cole et al., "The EBV-hybridoma technique and its application to human lung cancer," Monoclonal Antibodies and Cancer Therapy, Alan R. Liss Inc., New York NY 77-96 (1985)
		Collins et al., "Purification of Tetrahymena telomerase and cloning of genes encoding the two protein components of the enzyme," (1995) Cell, 81:677
		Conrad et al., "RAP1 protein interacts with yeast telomeres in vivo: Overproduction alters telomere structure and decreases chromosome stability," (1990) Cell, 63:738
		Crofton, Dictionary of Biotechnology, (1994); pp. 101-102, 283, 301 and 332; Stockton Press, New York NY
		Cote et al., "Generation of human monoclonal antibodies reactive with cellular antigens," (1983) Proc. Natl. Acad. Sci., 80:2026
		Counter et al., "The catalytic subunit of yeast telomerase," (1997) Proc. Natl. Acad. Sci., 94:9202
		Counter et al., (1994) Proc. Natl. Acad. Sci., 91:2900
		Creighton; Proteins, Structures and Molecular Principles, (1983); pp. 1-60; WH Freeman and Co; New York, NY
		Dieffenbach and Dveksler, PCR Primer, a Laboratory Manual; (1995) pp. 131-156, 453-462 and 507-580; Cold Spring Harbor Press, Plainview NY
		Duplab et al., "Quantitative analysis of polymerase chain reaction products using biotinylated dUTP incorporation," (1993) Anal. Biochem., 212:229

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Examiner Name	Peter P. Tung
Attorney Docket Number	015389-002611US

**OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS**

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		Fang et al., "Oxytricha telomere-binding protein: separable DNA-binding and dimerization domains of the $\alpha$ -subunit," <i>Genes Develop.</i> 7:870 (1993) and Gray et al., (1991) <i>Cell</i> 67:807	
		Feng et al., "The RNA Component of Human Telomerase," (1995) <i>Science</i> , 269:1236	
		GenBank Accession No. AA281298; April 2, 1997	
		Genbank accession no. AA299978; April 18, 1997	
		Genbank accession no. AA311750; April 19, 1997	
		Gilley et al., "Altering specific telomerase RNA template residues affects active site function," (1995) <i>Genes Develop.</i> 9:2214	
		Gottschling and Cech, "Chromatin Structure of the Molecular Ends of Oxytricha Mononuclear DNA: Phased Nucleosomes and a Telomeric Complex," (1994) <i>Cell</i> , 38:501	
		Gottschling and Zakian, "Telomere proteins: specific recognition and protection of the natural termini of Oxytricha macronuclear DNA," (1988) <i>Cell</i> 47:195	
		Grant et al., <i>Meth Enzymol.</i> , (1987) 153:516-544	
		Greenwood et al., "Phylogenetic relationships within the class oligohymenophorea, phylum ciliophora, inferred from the complete small subunit rRNA gene sequences of <i>Colpidium campylum</i> , <i>Glaucina chattoni</i> , and <i>Oplethoneca hemneguyi</i> ," (1991) <i>J. Mol. Evol.</i> , 3:163	
		Greider and Blackburn, "A telomeric sequence in the RNA of Tetrahymena telomerase required for telomere repeat synthesis," (1989) <i>Nature</i> , 337:331	
		Greider and Blackburn, "Identification of a specific telomere terminal transferase activity in Tetrahymena extracts," (1985) <i>Cell</i> , 43:405	
		Greider, "Telomerase is processive," (1991) <i>Mol. Cell. Biol.</i> , 11:4572	
		Greider, "Telomere Length Regulation," (1996) <i>Ann. Rev. Biochem.</i> , 65:337	

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<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>				Application Number	09/432,503
(use as many sheets as necessary)				Filing Date	November 2, 1999
Sheet 6 of 16				First Named Inventor	Cech, Thomas R., et. al.
				Art Unit	1652
				Examiner Name	Peter P. Tung
				Attorney Docket Number	015388-002611US

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		Hampton et al.: <i>Serological Methods a Laboratory Manual</i> ; (1990); pp. 33-86, 179-286; APS Press, St Paul MN		
		Harrington et al., "A Mammalian Telomerase-Associated Protein," (1997) <i>Science</i> , 275:973		
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Application Number	09/432,503
Filing Date	November 2, 1999
First Named Inventor	Cech, Thomas R., et. al.
Art Unit	1652
Examiner Name	Peter P. Tung
Attorney Docket Number	015389-002611US

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		Lamond and Sproat; (1994) "Isolation and Characterization of Ribonucleoprotein Complexes," in <i>RNA Processing: A Practical Approach</i> , (Higgins, S.J. and Hawes, B.D. Eds.), Volume 1; pp103-140	
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Filing Date	November 2, 1999
First Named Inventor	Cech, Thomas R., et. al.
Art Unit	1652
Examiner Name	Peter P. Tung
Attorney Docket Number	015389-002611US

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Examiner Initials *	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
		Meyerson et al., "HEST2, the Putative Human Telomerase Catalytic Subunit Gene, Is Up-Regulated in Tumor Cells and during Immortalization," (1997) <i>Cell</i> , 90:785	
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Application Number	09/432,503
Filing Date	November 2, 1999
First Named Inventor	Cech, Thomas R., et. al.
Art Unit	1652
Examiner Name	Peter P. Tung
Attorney Docket Number	01S389-002611US

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		Filing Date	November 2, 1999
		First Named Inventor	Cech, Thomas R., et al.
		Art Unit	1652
		Examiner Name	Peter P. Tung
Sheet <b>10</b> of <b>10</b>		Attorney Docket Number	015389-002611US

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		Wellinger et al., "Saccharomyces Telomeres Acquire Single-Strand TG <sub>1,3</sub> Tails Late in S Phase," (1993) <i>Cell</i> 72:51	
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